



**SMART
ENERGY**
CONSUMER
COLLABORATIVE

**2024
CONSUMER
SYMPOSIUM**

Co-located with
DISTRIBUTECH
International

The Consumer Voice in the Energy Movement

MON, FEB 26 | ORLANDO, FLA



SMART ENERGY
CONSUMER COLLABORATIVE

Customer Satisfaction and the Smart Grid

#SECC2024

Customer Satisfaction and the Smart Grid

2024 Consumer Symposium
February 26, 2024



Touchstone Energy[®]
Cooperatives

Touchstone Energy[®] Cooperatives Inc.

- Membership organization of locally owned cooperatives in 46 states
- Cooperatives are not-for-profit, endorse core values of integrity, commitment to community, accountability, and innovation and put members first
- Provides resources and leverages partnerships to help member cooperatives better engage and serve their member-owners

Touchstone Energy® Research

Touchstone Energy works with several organizations (e.g., SECC, Advanced Energy, Cooperative Insights) to conduct research concerning consumer attitudes and opinions, beneficial electrification, electric vehicles, smart devices, and more.



CUSTOMER SATISFACTION AND THE SMART GRID



Background & Methodology

The Smart Energy Consumer Collaborate recognizes the updates and upgrades electricity providers have made to the electric grid over the past 15 years to improve customers' experiences. However, it is not well-known what improvement and experience customers have seen during this time.

To understand the consumer experience, the Smart Energy Consumer Collaborative (SECC) commissioned Maru/Matchbox to answer the following **central questions**:

- *Do consumers see the benefits of the smart grid and detailed energy data?*
- *What information or programs are available to consumers?*
- *What is consumers' current satisfaction and trust of their energy utility provider?*
- *Is the information provided to customers from energy use data improving customer satisfaction or overwhelming them?*
- *How interested are consumers in demand response opportunities and who/what would motivate them to take part?*

WHAT?

To answer these questions, Maru/Matchbox conducted a 15-minute online survey among the sample groups below.

WHEN?

The survey was fielded from November 28th to December 5th, 2023.

WHO?

The survey included the following sample groups:

- n=1500 Americans household energy decision-makers, aged 18+

The general population data was weighted to age, gender, region, and income to census data.

Accessing Home Electricity Reports

Access to and Frequency of Reviewing Electricity Usage Reports Among Total

% Yes, have access to usage reports



63%



55%



44%



62%

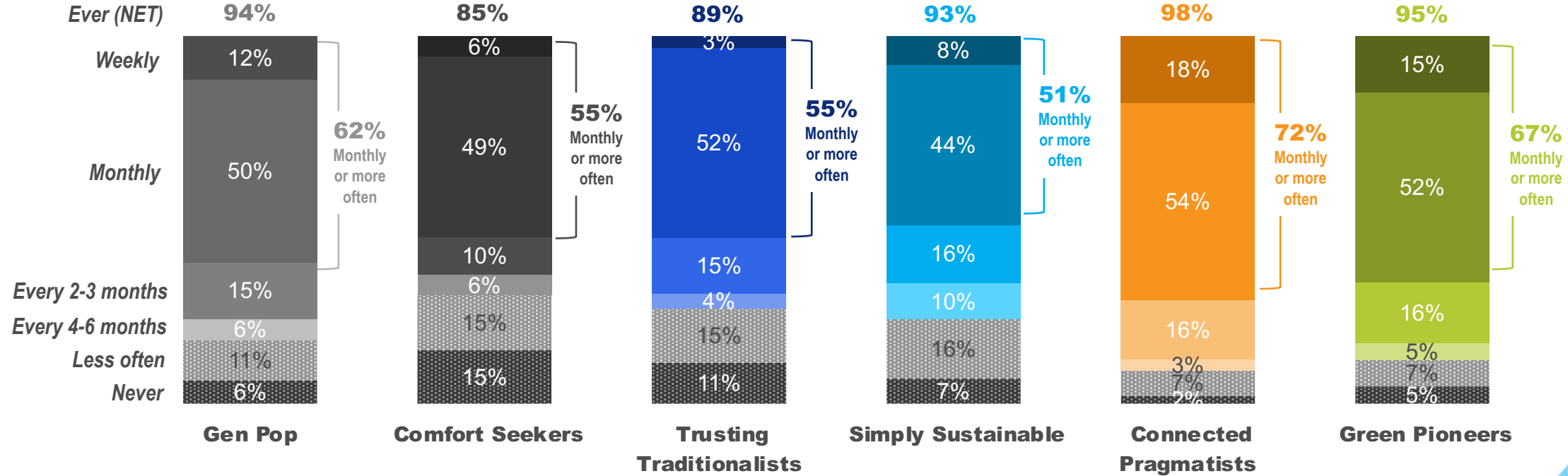


67%



77%

Frequency of Reviewing Electricity Reports



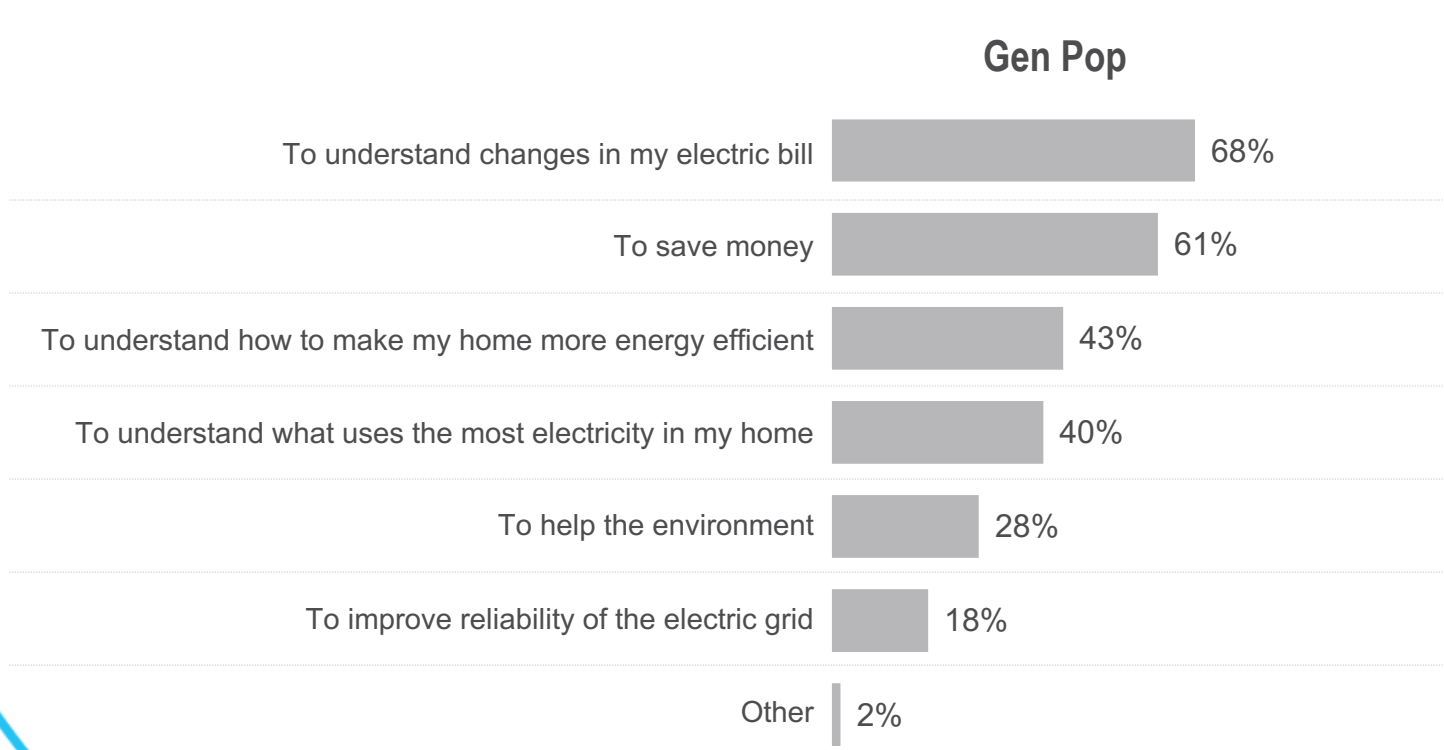
Base: All Respondents – Gen Pop (n=1,500); Simply Sustainable (n=371), Connected Pragmatists (n=346), Green Pioneers (n=323), Trusting Traditionalists (n=292), Comfort Seekers (n=158)
 QELECTRICREPORTS. Do you have access to electricity usage reports or detailed online information from your electricity provider?

Base: 'Yes' @ QELECTRICREPORTS – Gen Pop (n=933); Simply Sustainable (n=230), Connected Pragmatists (n=230), Green Pioneers (n=249), Trusting Traditionalists (n=129), Comfort Seekers (n=88)
 QREPORTREVIEW. How often, if ever, do you review these electricity usage reports or detailed online information from your electricity provider?

Electricity Report Motivations

Reasons for Reviewing Energy Usage Reports from Electricity Provider

Among those who Review Energy Usage Reports



| | Comfort Seekers | Trusting Traditionalists | Simply Sustainable | Connected Pragmatists | Green Pioneers |
|---|-----------------|--------------------------|--------------------|-----------------------|----------------|
| To understand changes in my electric bill | 66% | 76% | 74% | 55% | 73% |
| To save money | 57% | 65% | 72% | 58% | 55% |
| To understand how to make my home more energy efficient | 25% | 30% | 49% | 43% | 51% |
| To understand what uses the most electricity in my home | 29% | 34% | 33% | 41% | 50% |
| To help the environment | 1% | 22% | 23% | 34% | 35% |
| To improve reliability of the electric grid | 6% | 5% | 12% | 31% | 20% |
| Other | 3% | 4% | 2% | 1% | 1% |

**Caution small base sizes (n<50)*

Base: 'Reviewed Reports' @ QREPORTREVIEW – Gen Pop (n=873); Simply Sustainable (n=214), Connected Pragmatists (n=225), Green Pioneers (n=237), Trusting Traditionalists (n=115), Comfort Seekers (n=75) QREASONSREVIEW. Which of the following reasons describe why you review your electricity usage reports or detailed online information?

Ideal Channel for Electricity Reports

Best Channel for Accessing Electricity Usage Reports

Among those who are likely to review Energy Usage Reports if they have access to them



| | Comfort Seekers* | Trusting Traditionalists | Simply Sustainable | Connected Pragmatists | Green Pioneers |
|--------------------------------------|------------------|--------------------------|--------------------|-----------------------|----------------|
| Online web portal | 40% | 33% | 35% | 19% | 37% |
| Email | 13% | 20% | 20% | 25% | 17% |
| Mobile app | 20% | 8% | 14% | 31% | 24% |
| Paper mail (not a part of your bill) | 9% | 20% | 16% | 13% | 12% |
| Bill inserts | 18% | 18% | 15% | 13% | 9% |

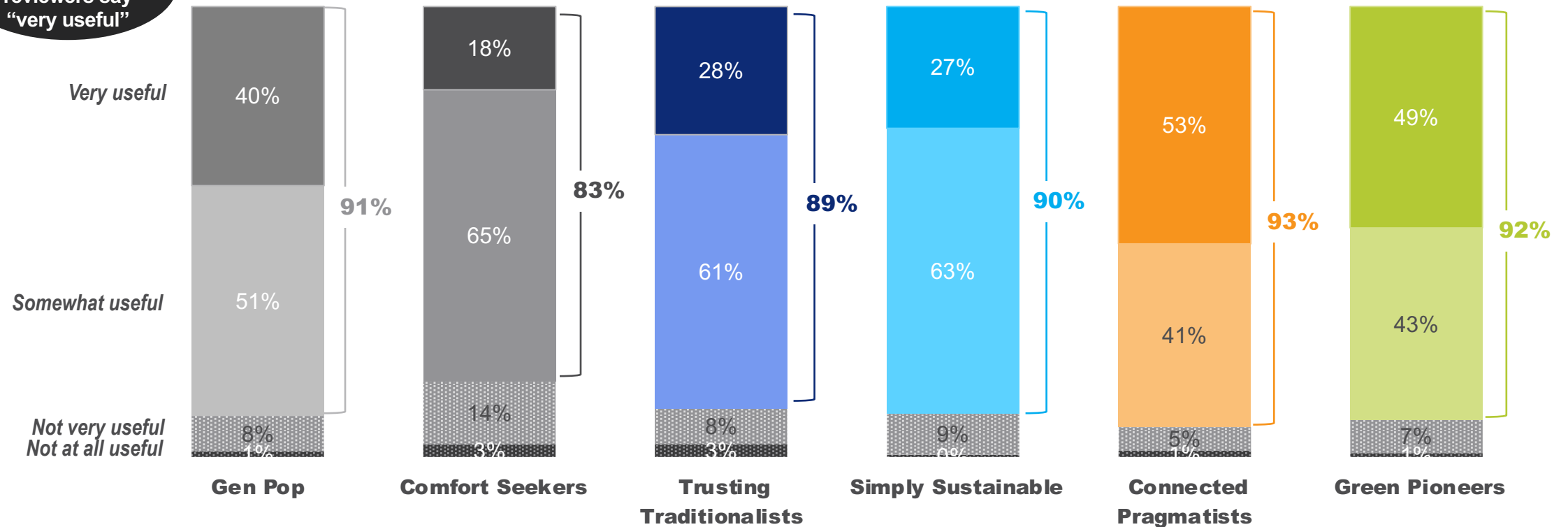
*Caution small base sizes (n<50)

Base: 'Very/Somewhat Likely' @ QNOTSUREREPORT – Gen Pop (n=404); Simply Sustainable (n=103), Connected Pragmatists (n=86), Green Pioneers (n=64), Trusting Traditionalists (n=109), Comfort Seekers (n=40*) QCHANNEL. What would be the best way to access electricity usage reports or detailed information from your electricity provider?

Electricity Report Usability

Usefulness of Electricity Usage Reports Among those who Review Energy Usage Reports

49% of monthly reviewers say "very useful"



Base: 'Reviewed Reports' @ QREPORTREVIEW – Gen Pop (n=873); Simply Sustainable (n=214), Connected Pragmatists (n=225), Green Pioneers (n=237), Trusting Traditionalists (n=115), Comfort Seekers (n=75) QUSEFUL.
Overall, how useful are your electricity usage reports or detailed online information?

Electricity Report Information



Information in Energy Usage Reports from Electricity Provider Among those who Review Energy Usage Reports

| | Gen Pop |
|--|---------|
| Comparisons of your usage over time | 59% |
| Comparisons of your usage to the same time last year | 59% |
| Tips to save electricity in your home | 49% |
| Recommendations on how to make your home more energy efficient | 38% |
| Electricity usage for each hour of the day or daily usage | 36% |
| Comparisons between your usage and others in your area | 35% |
| Offers for energy efficiency programs | 35% |
| Recommendations on when to use certain appliances | 20% |
| How much electricity each appliance uses | 18% |
| Recommendations on which appliances to use less | 17% |
| Other | 0% |
| Can't recall | 2% |

| Comfort Seekers | Trusting Traditionalists | Simply Sustainable | Connected Pragmatists | Green Pioneers |
|-----------------|--------------------------|--------------------|-----------------------|----------------|
| 53% | 64% | 68% | 41% | 68% |
| 66% | 67% | 69% | 38% | 64% |
| 37% | 51% | 55% | 43% | 50% |
| 34% | 38% | 41% | 34% | 42% |
| 24% | 28% | 35% | 38% | 41% |
| 27% | 34% | 36% | 34% | 39% |
| 11% | 33% | 42% | 32% | 40% |
| 13% | 15% | 18% | 24% | 23% |
| 7% | 4% | 11% | 25% | 25% |
| 7% | 9% | 11% | 22% | 22% |
| - | 1% | - | - | 0% |
| 6% | 4% | 3% | 2% | - |

*Caution small base sizes (n<50)

Base: 'Reviewed Reports' @ QREPORTREVIEW – Gen Pop (n=873); Simply Sustainable (n=214), Connected Pragmatists (n=225), Green Pioneers (n=237), Trusting Traditionalists (n=115), Comfort Seekers (n=75)
QINFORECEIVE. What kind of information do you see from these electricity usage reports or detailed online information?

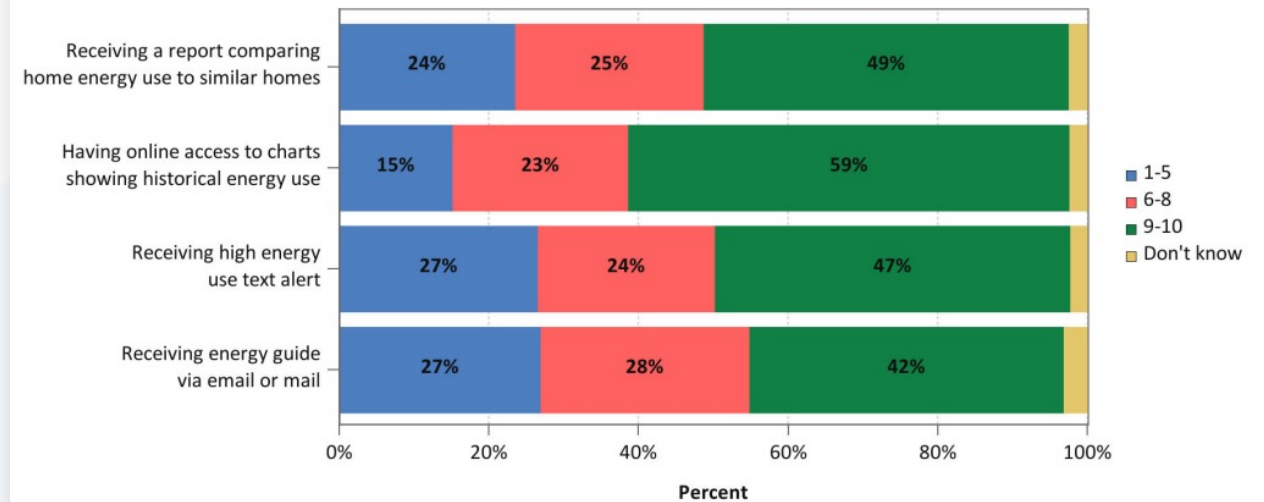
Energy Usage Information

Based on survey among 8,900 member-owners of Touchstone Energy® electric cooperatives across the country, 59 percent of respondents are extremely interested in having online access to charts showing historical energy use, followed by strong interest in receiving a report comparing home energy use to similar homes.

Energy Efficiency Education Opportunities (CONTINUED)

On a scale from 1 to 10, how interested would you be in your co-op offering these opportunities to help educate its members on how to improve energy efficiency of their homes?

(1 = not at all interested, 10 = extremely interested)

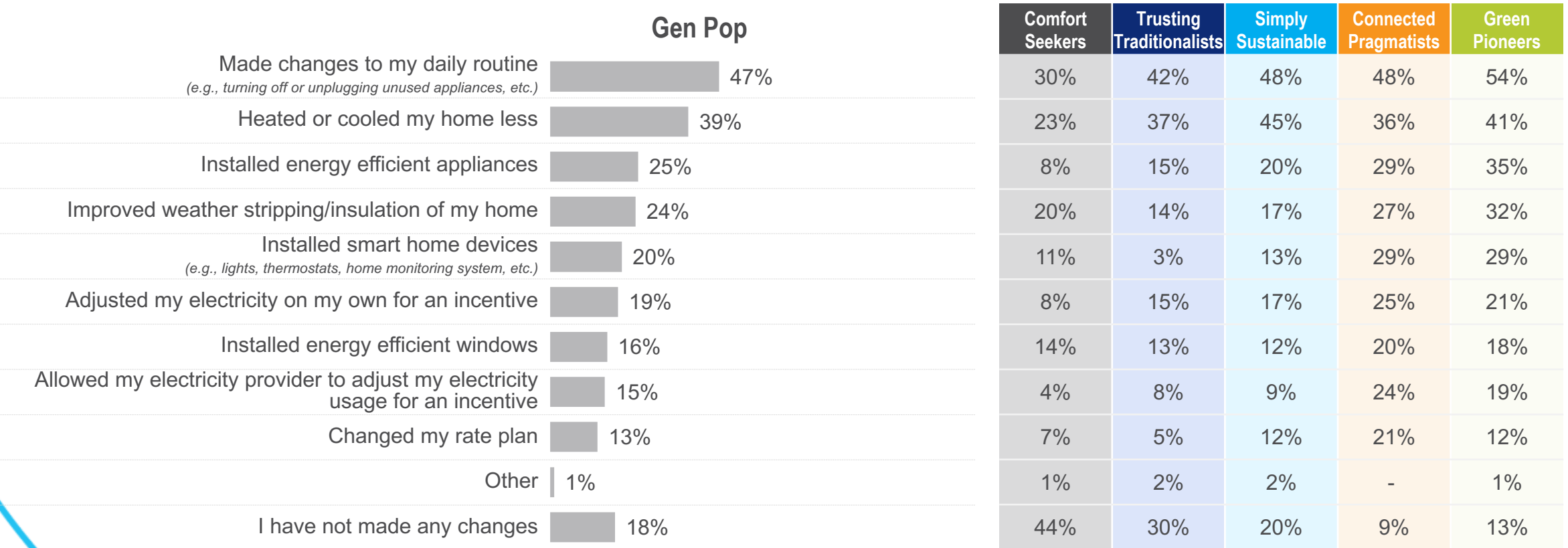


Source: [2023 National Survey on the Cooperative Difference](#)

Application of Electricity Report Information



Changes Made since Reviewing Energy Usage Reports from Electricity Provider Among those who Review Energy Usage Reports



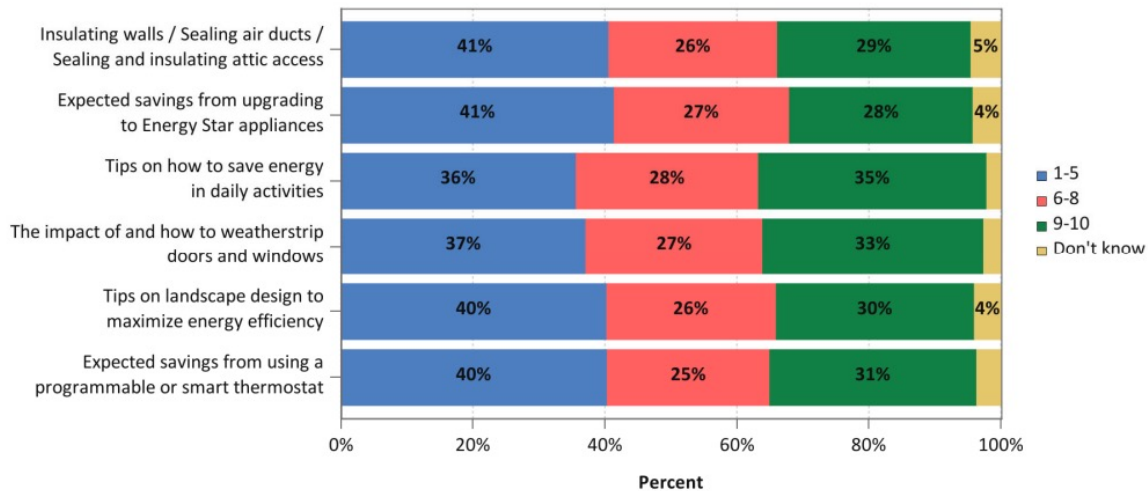
**Caution small base sizes (n<50)*

Base: 'Reviewed Reports' @ QREPORTREVIEW – Gen Pop (n=873); Simply Sustainable (n=214), Connected Pragmatists (n=225), Green Pioneers (n=237), Trusting Traditionalists (n=115), Comfort Seekers (n=75)
QCHANGES. What changes have you made since reviewing your electricity usage reports or detailed online information?

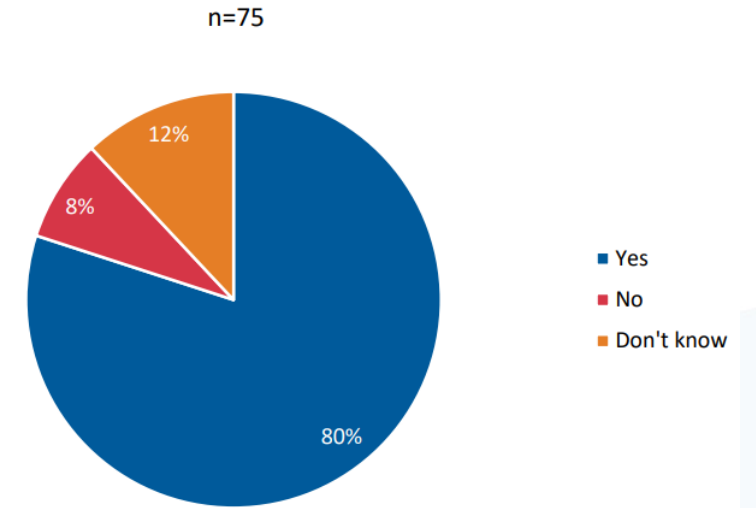
Consumer Behavior

Interest in Energy Saving Actions

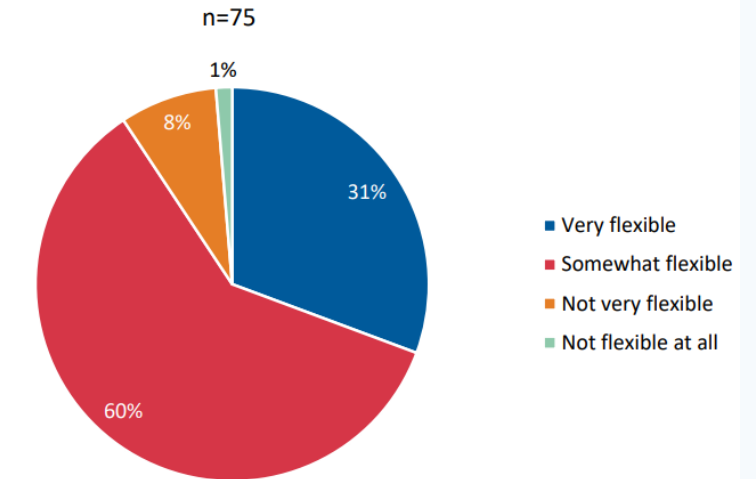
On a scale from 1 to 10, how interested would you be in learning about ...?
(1 = not at all interested, 10 = extremely interested)



Would you be interested in receiving alerts from your co-op when demand for energy is highest so you can reduce use of energy-intensive appliances?



How flexible would you say are you to using appliances at a different time if you knew you could save energy?

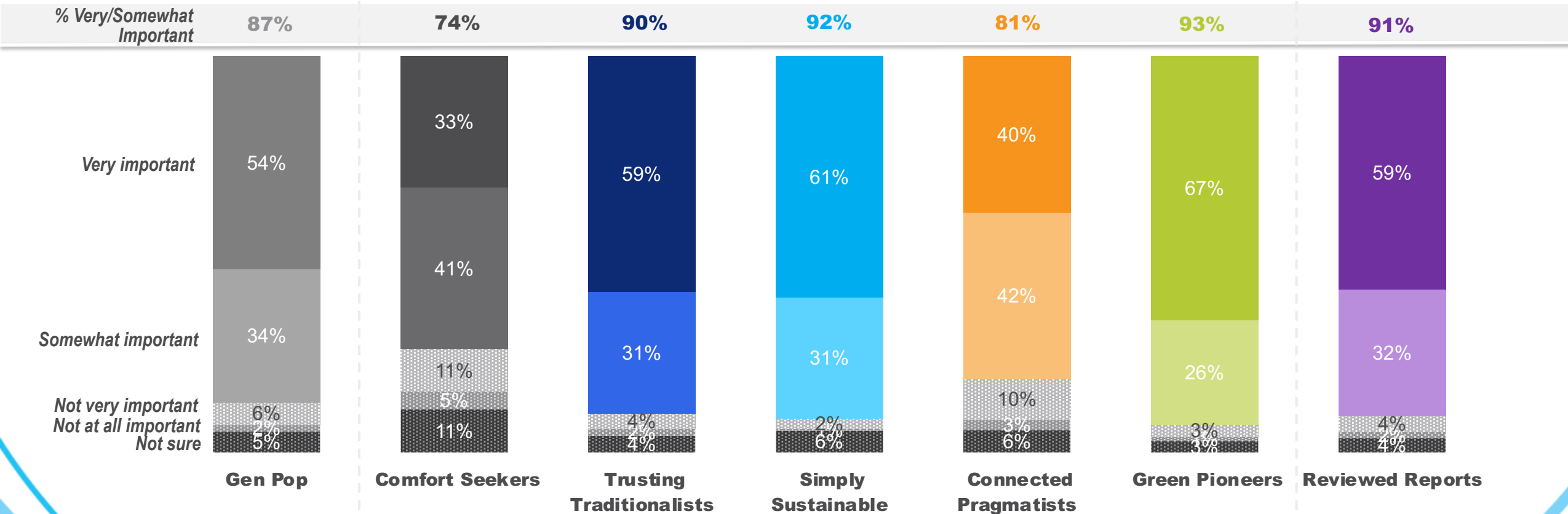


Source: [2023 National Survey on the Cooperative Difference](#)

Source: *Energy Use and Understanding* (FPF 2023)

Importance of Grid Modernization

Importance of Modernizing the Electric Grid Among Total



Base: All Respondents – Gen Pop (n=1,500); Simply Sustainable (n=371), Connected Pragmatists (n=346), Green Pioneers (n=323), Trusting Traditionalists (n=292), Comfort Seekers (n=158); Reviewed Reports (n=873)
QGRIDIMPORTANCE. Overall, how important to you is it that your electricity provider takes steps to modernize the electric grid?

Benefits of a Modern Electric Grid



Benefits of Investing in Modernization of the Electric Grid

Among Gen Pop

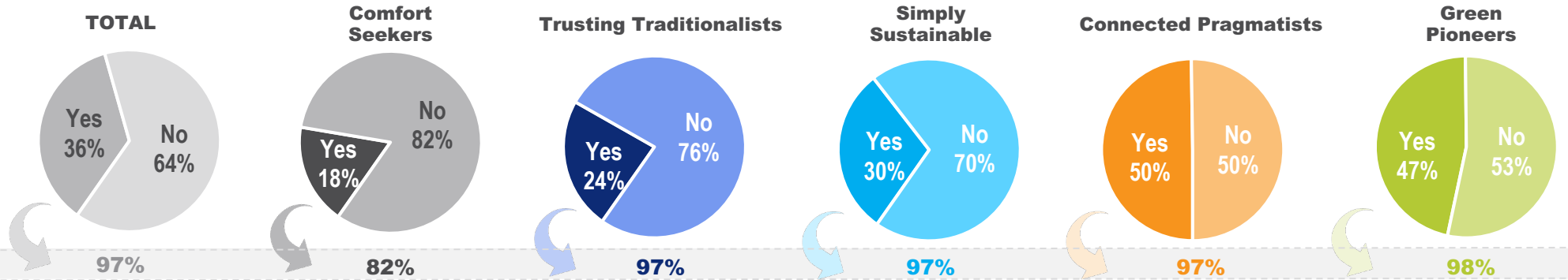
| | Gen Pop | Comfort Seekers | Trusting Traditionalists | Simply Sustainable | Connected Pragmatists | Green Pioneers | Reviewed Reports |
|---|---------|-----------------|--------------------------|--------------------|-----------------------|----------------|------------------|
| More reliable electricity | 57% | 54% | 63% | 65% | 41% | 62% | 58% |
| Helps the grid withstand severe weather events | 50% | 40% | 63% | 65% | 29% | 49% | 50% |
| Stable electricity costs | 46% | 39% | 51% | 53% | 33% | 51% | 45% |
| Cheaper electricity costs | 44% | 39% | 45% | 49% | 35% | 48% | 42% |
| Better outage response time | 42% | 31% | 45% | 51% | 30% | 47% | 43% |
| More ways to save on electric bills | 41% | 31% | 42% | 47% | 33% | 45% | 41% |
| More renewable energy (e.g., solar, wind) | 37% | 19% | 38% | 48% | 26% | 42% | 37% |
| Better cyber security of grid | 34% | 26% | 36% | 37% | 26% | 41% | 35% |
| Ensures that clean energy is accessible to everyone | 31% | 16% | 35% | 36% | 25% | 35% | 31% |
| Ensures that people have the power needed as use of electric vehicles and electric products increases | 31% | 15% | 36% | 37% | 25% | 32% | 31% |
| More insight into my energy usage and electric bills | 24% | 15% | 22% | 23% | 24% | 30% | 26% |
| Helps improve air quality | 23% | 5% | 23% | 30% | 21% | 27% | 25% |
| Fewer wildfires | 19% | 8% | 20% | 21% | 19% | 21% | 21% |
| Other | 0% | 1% | 0% | 1% | - | - | 0% |
| I do not expect any benefits | 6% | 15% | 8% | 4% | 5% | 3% | 3% |

Base: All Respondents – Gen Pop (n=1,500); Simply Sustainable (n=371), Connected Pragmatists (n=346), Green Pioneers (n=323), Trusting Traditionalists (n=292), Comfort Seekers (n=158); Reviewed Reports (n=873)
QBENEFITSGRID. What benefits do you expect from your utility investing in modernizing the electric grid?

Paying More for Grid Modernization among General Population & Segments

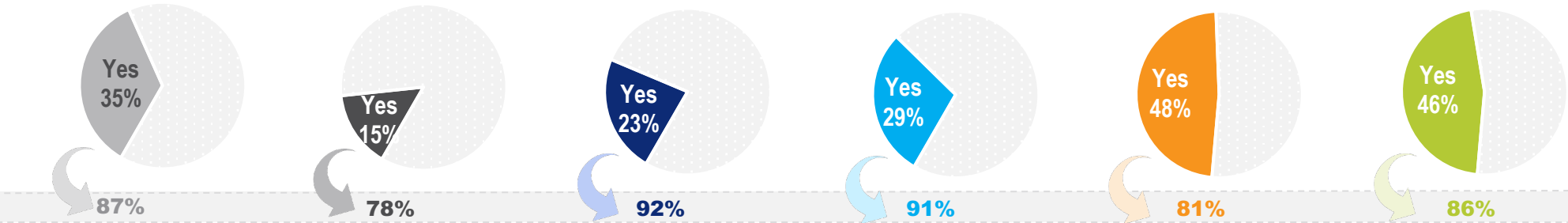


Are you willing to pay more for modernization of the electric grid in the future?



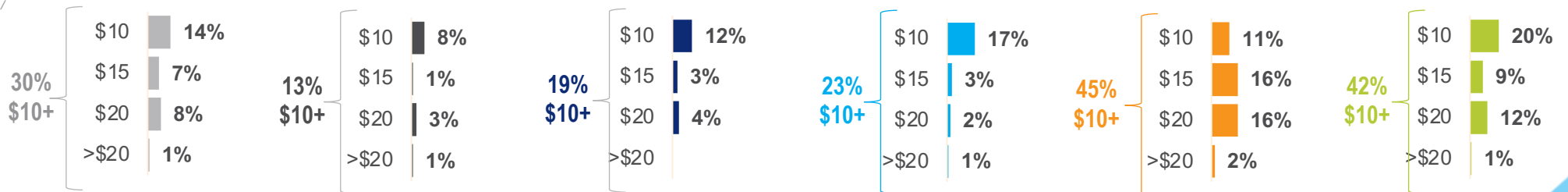
Conversion Rate
(People willing to pay \$5 more) / (People willing to pay in general)

Are you willing to pay \$5 more?



Conversion Rate
(People willing to pay more than \$5) / (People willing to pay \$5)

What is the most you are will to pay?



Base: All Respondents – Gen Pop (n=1,500); Simply Sustainable (n=371), Connected Pragmatists (n=346), Green Pioneers (n=323), Trusting Traditionalists (n=292), Comfort Seekers (n=158)
 Q_PAYGRID. And would you be willing to pay slightly more each month on your electricity bill for your provider to invest in modernizing the grid for the future?
 Base: 'Yes' @QPAYGRID – Gen Pop (n=531); Simply Sustainable (n=109), Connected Pragmatists (n=169), Green Pioneers (n=149), Trusting Traditionalists (n=69), Comfort Seekers (n=28*)
 Q_PAYMENT5. Would you be willing to pay \$5 more?
 Base: 'Yes' @QPAYMENT5 – Gen Pop (n=513); Simply Sustainable (n=106), Connected Pragmatists (n=164), Green Pioneers (n=146), Trusting Traditionalists (n=67), Comfort Seekers (n=23*)
 Q_PAYMENTANY. What is the most you would be willing to pay on top of your electricity bill each month for your provider to invest in modernizing the grid for the future?

Takeaways & Next Steps

Increasing access and awareness to detailed electricity usage reports is key to engaging consumers in energy efficiency.



Consumers are interested in electricity reports, even if they don't have access. With four-in-ten not having access or not aware of having access, there is an opportunity for electricity providers to increase engagement among consumers. Ensuring that consumers know reports are available to them and how to access them is key, as interest is strong among those not currently viewing reports.

Knowing what uses the most electricity in their household is what makes electricity usage reports useful to consumers.



Among electricity report viewers, regular electricity report reviewers cite higher rates of knowing what uses the most electricity in their household and rate their reports as more useful. To motivate consumers to continue viewing reports, electricity providers need to ensure they are educating consumers by letting them know what uses the most electricity and what changes they can make to save money on their bill.

Modernizing the grid is important, but consumers need to be more aware of what their electricity provider is doing to help.



Consumers understand the importance of modernizing the grid and the benefits it can provide them and their community. However, half do not know if their electricity provider is doing anything to help. Clearly communicating steps electricity providers have taken to modernize the grid is important to show the value they are providing consumers and ensuring reliability for the future.

Consumers that directly benefit from grid modernization (e.g., electric vehicle owners and renewable receivers) should be targeted for programs aimed at grid modernization.



Although consumers value modernizing the grid, most are not willing to monetarily contribute. Rather, interest is mainly from those who would currently directly benefit from grid modernizations. This is primarily consumers who receive renewable energy and those with electric vehicles. These two groups should be targeted for any programs or offers focusing on grid modernization.

THANK YOU!



Touchstone Energy[®]
Cooperatives

Questions?

Angelika.Hoelger@nreca.coop

Phone: 571-289-0609

Office: 703-907-5581

Smart Grid – Consumer Benefits

Ben Pierson, PE, MBA

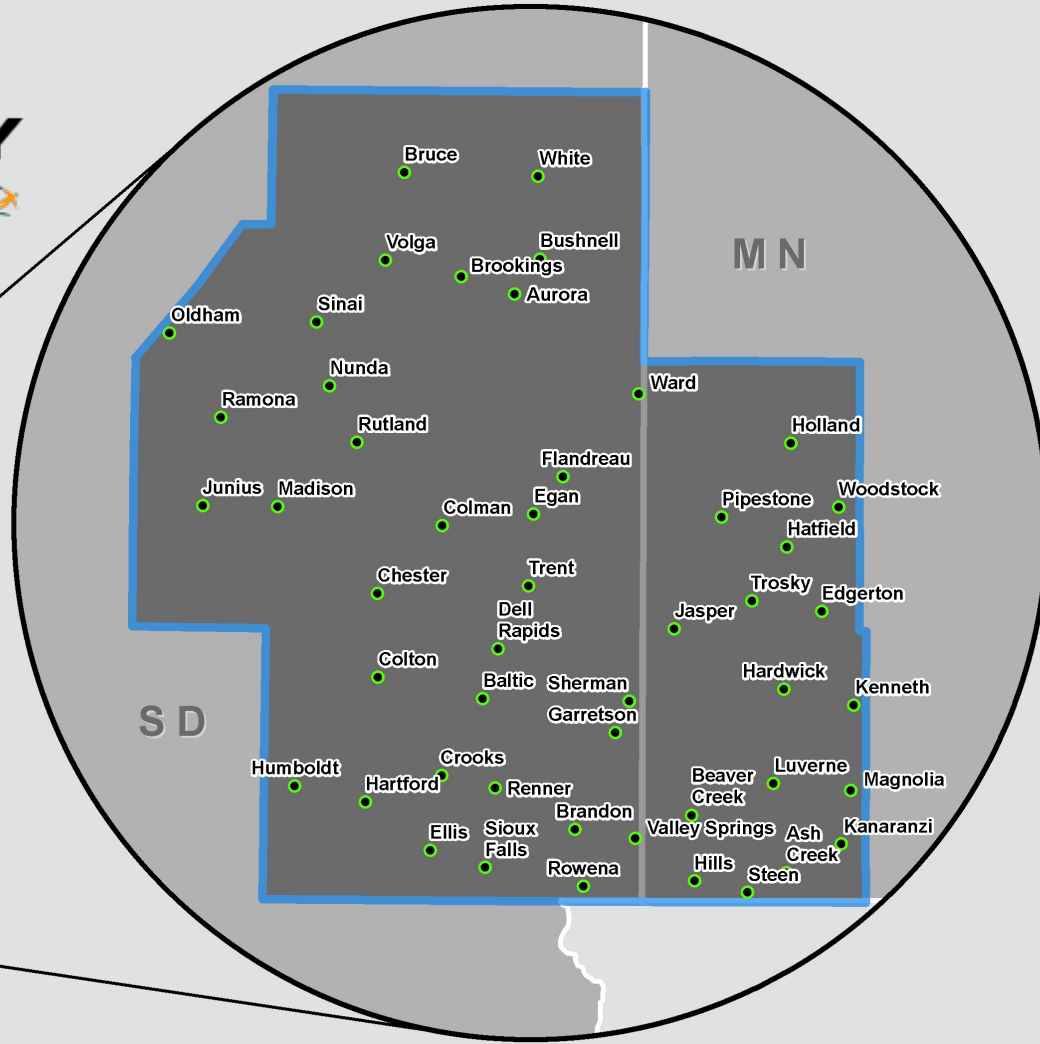
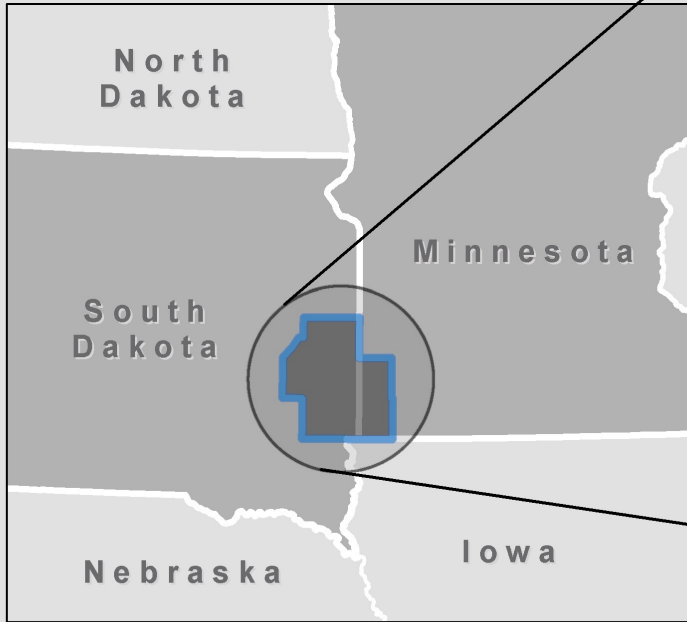
Manager of Beneficial Electrification



SIoux VALLEY
ENERGY A Touchstone Energy® Cooperative



SIoux VALLEY
ENERGY A Touchstone Energy® Cooperative



Members: 27k

Employees: 107

Power Suppliers: East River Electric (SD), L&O Power (MN)



AMI History

- **Turtle TS-1 AMR until 2009**
- **SVE Awarded \$4M Smart Grid grant from DOE, replaced system over 3 years (2010-2012) for \$7.2M with TWACS AMI**
- **Currently starting next generation meter changeout, will accomplish over many years (Cellular meters)**
 - **Eliminate substation equipment cost**
 - **Easier to pull data from it**
 - **Can get down to 5 minute interval data, more accurate and consistent meter reads**

AMI Benefits

- **Outage Management**
- **Member Interface**
- **Voltage and Blink Info**
- **Prepaid Metering**
- **Remote Disconnect**
- **Rate Flexibility**
- **Extras**

Outage Management

- **After 1 call system pings meters to identify outage extent**
- **Most of the time we send notification of an outage prior to member calling**
- **Next generation will send notification before member calls**
- **Overall improved outage response time and member satisfaction**

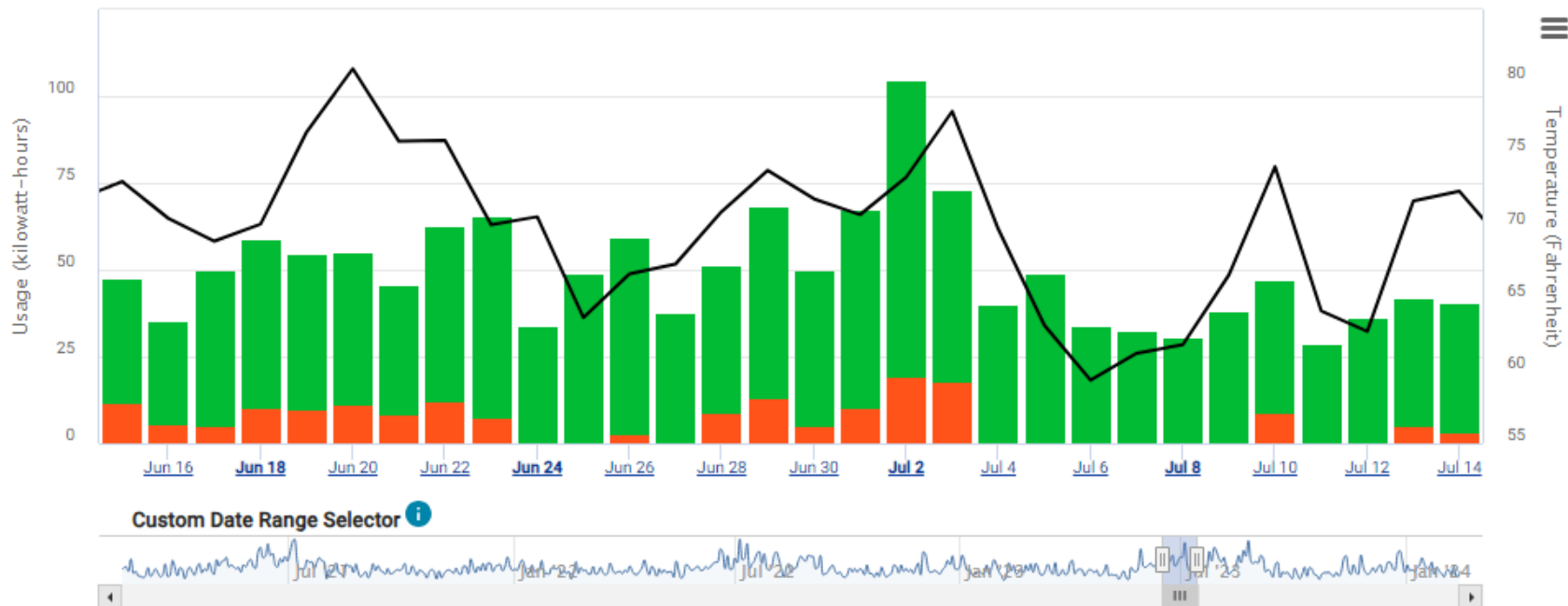
Member Interface

- **High bill complaints**
 - **Old garage fridge**
 - **Sump pumps and recirculation pumps**
- **Information**
- **Curiosity**

Member Interface

DAILY USAGE - 06/15/2023 - 07/14/2023

Customer Since: June 2, 2008



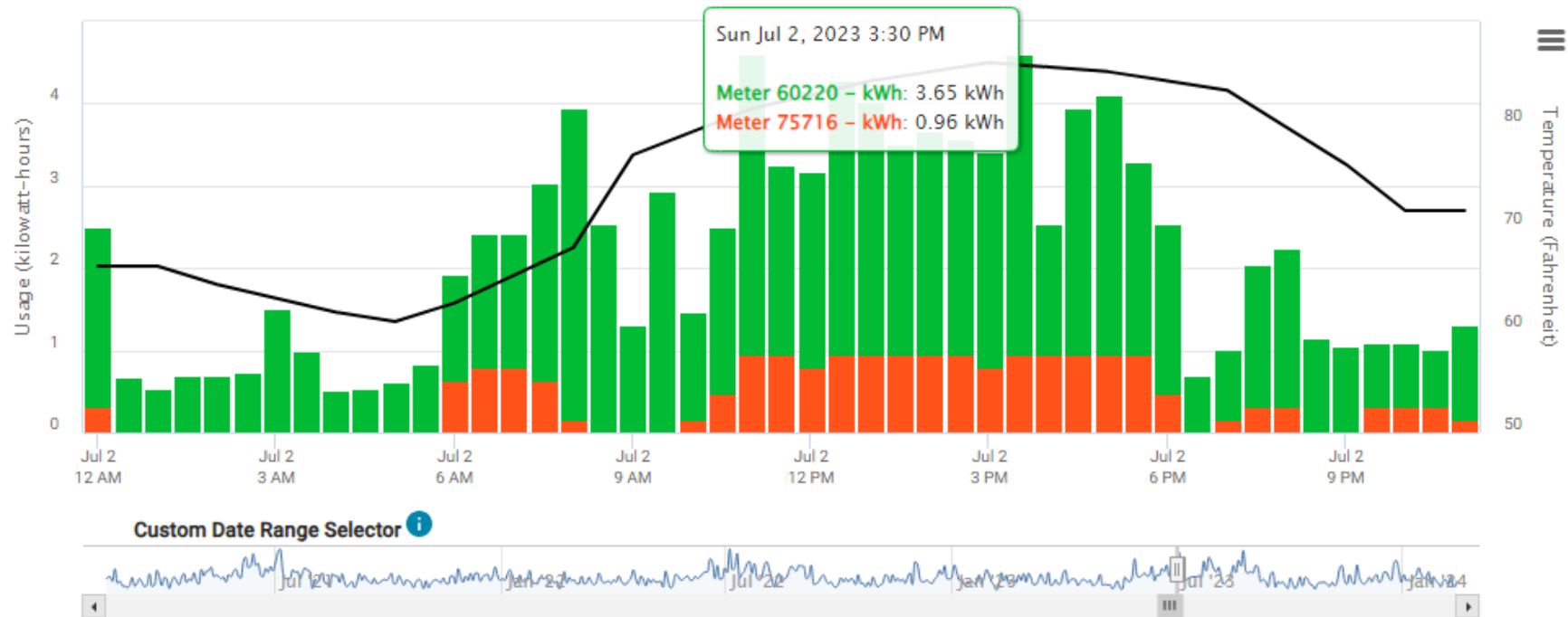
- Meter: 60220 - kWh
- Meter: 75716 - kWh

- High Temp
- Average Temp
- Low Temp

Member Interface

INTERVAL USAGE - 07/02/2023 12 AM - 07/02/2023 11 PM

Customer Since: June 2, 2008



| | |
|--------------------|-------------------------------------|
| Meter: 60220 - kWh | <input checked="" type="checkbox"/> |
| Meter: 75716 - kWh | <input checked="" type="checkbox"/> |

| |
|--|
| <input checked="" type="checkbox"/> Average Temp |
|--|

Voltage and blink Info

44012 - Sioux Valley Energy Mobile Workforce | C:\vive_mapping_staking\SIoux VALLEY ENERGY.mxd

File View Application My Favorites Mapping Help

Contact Tracking

Commit Update Tasks Sync **Network Status** Launch Camera

TOC Mapping CIS Database Timestamp: 10/8/12 8:13 AM

Ref:1:0 Map:1:784,713

Navigation TOC

Sioux Valley Energy

- voltage
 - gs_voltage
 - Voltage Results LOW
 - Voltage Results Between
 - Voltage Results HIGH
- blinks
- AVL TRUCKS
- STAKING LAYERS
- Work Plan Projects 2012 Anno
- 2012-2015 CWP
- ANNOTATION
- ELECTRIC
- GS LAYERS - PHASE
- Work Plan Projects 2012
- BACKGROUND
- AERIALS
 - CITIES
 - Colman_2009_6IN.sid
 - Egan_2009_6IN.sid
 - Flandreau_2009_6IN.sid
 - Sioux Falls East - 2008 - 6IN
 - Sioux Falls West 2008 - 6IN
 - Trent_2009_6IN.sid
 - Ward_2009_6IN.sid
 - Valley Springs - 2008 - 1FT
 - COUNTIES
 - Brookings_2010_1FT.ecw
 - Kingsbury_2010_1M.sid
 - Lake_2010_1M.sid
 - Minnehaha_2008_1FT.sid
 - Minnehaha_2010_1M.sid
 - Moody_2009_1FT.sid
 - Moody_2010_1M.sid
 - Pipestone_2010_1M.sid
 - Rock_2010_1M.sid

Mapping

Artifacts Service Orders Notes

Editor Target: []

Place Features Queries Easement

Voltage and blink Info

44012 - Sioux Valley Energy Mobile WorkForce | C:\vive_mapping_staking\SIoux VALLEY ENERGY.mxd

File View Application My Favorites Mapping Help

Contact Tracking Commit Update Tasks Sync Network Status Launch Camera

CIS Database Timestamp: 10/15/12 4:04 AM

Ref:1:0 Map:1:784,713

Navigation TOC Mapping

Sioux Valley Energy

- Blinks/Voltages
 - Blink_Count
 - Blink_Count
 - 1
 - 2 - 4
 - 5 - 10
 - Total_Blinks
 - Total_Blinks
 - 3 - 10
 - 11 - 20
 - 21 - 35
 - voltage
 - gs_voltage
 - Voltage Below 228
 - Voltage Results Between
 - Voltage Above 252
- AVL TRUCKS
- STAKING LAYERS
- Work Plan Projects 2012 Anno
- 2012-2015 CWP
- ANNOTATION
- ELECTRIC
- GS LAYERS - PHASE
- Work Plan Projects 2012
- BACKGROUND
- S_FLD_HAZ_AR
- FWS_Wetlands_WMS
- AERIALS
- CITIES
- COUNTIES

Mapping

Editor Target: []

Place Features Queries Easement

Prepaid Metering – Member Benefits

- **No deposit or collection fees**
- **No late fees or due dates**
- **Easy way to budget for electricity**
- **Promotes energy efficiency and conservation**

Prepaid Metering – Cooperative Benefits

- **Reduce collections and write-offs**
- **Easier for Member Service Representatives**
- **Increased member satisfaction**
- **1033 participants (3.8% of members)**
- **Decreased postpaid disconnects (20 per month, down from 35 per month)**

Remote Disconnect/Reconnect – Member Benefits

- **No disconnect/reconnect fees**
- **Power comes back on instantly**

Remote Disconnect/Reconnect – Cooperative Benefits

- **Reduce write-offs**
- **No disconnect/reconnect truck roll**
- **Easier for Member Service Representatives**
- **Increased member satisfaction**

Rate Flexibility

- **Regular Residential Rate: 10.26 cents/kWh any time of the day**
- **Time of Use Rate**
- **5.84 cents/kWh off-peak rate (10 a.m.-4 p.m. and 9 p.m.-7a.m.)**
- **16.15 cents/kWh on-peak rate (7-10 a.m. and 4-9 p.m.)**

Rate Flexibility

- **Regular Residential Rate: 10.26 cents/kWh any time of the day**
- **Electric Vehicle Charging Rate**
- **5.84 cents/kWh off-peak rate (10 a.m.-4 p.m. and 9 p.m.-7a.m.)**
- **58.4 cents/kWh on-peak rate (7-10 a.m. and 4-9 p.m.)**

Rate Flexibility

- **Regular Residential Rate: 10.26 cents/kWh any time of the day**
- **Coincident Peak Rate Pilot**
- **6.42 cents/kWh any time of the day**
- **\$19.25/kWh during peak half hour**

Extras

- **DG – 1 meter instead of 2**
- **Engineering Model input**
- **Troubleshooting meter reads and load controls**
- **Have communications to substations and electronic devices everywhere, starting to get communications downline, could improve outage response even further**

Questions?

Thank You!



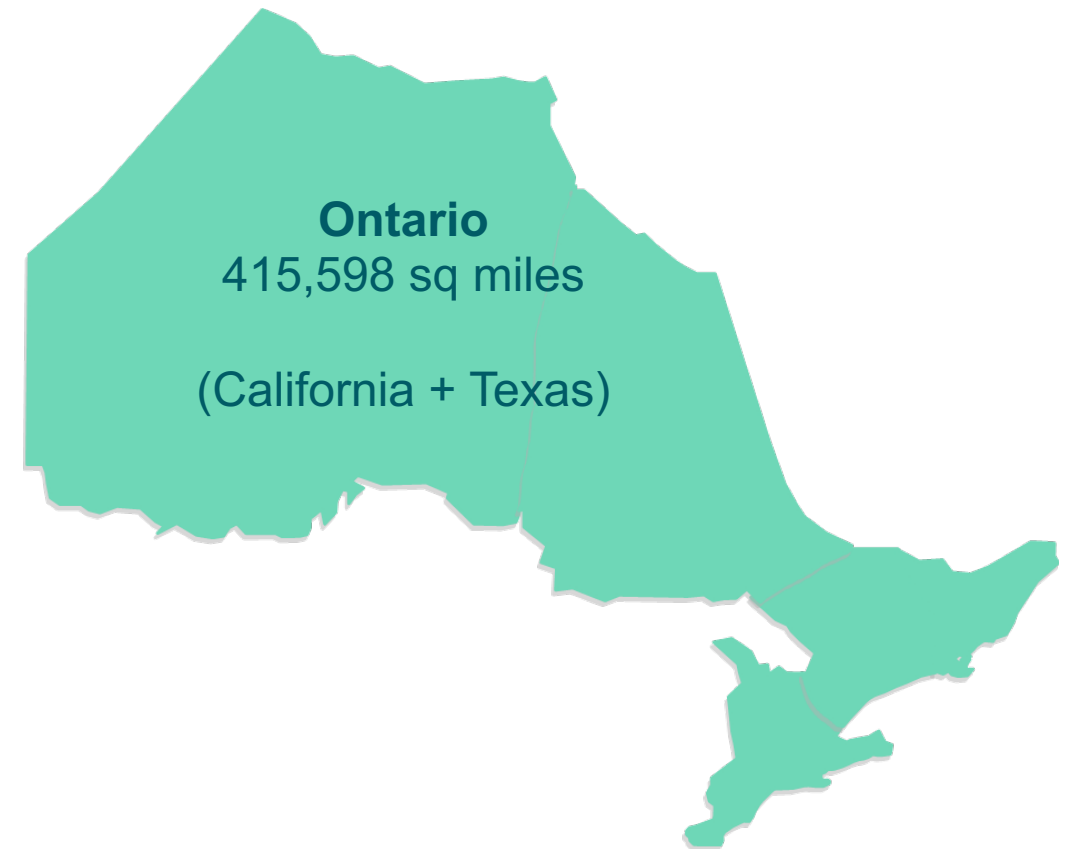
Customer Satisfaction and the Smart Grid

Andrea Nuesser

February 26, 2024

Hydro One – Overview

- Hydro One is Ontario's largest electricity transmission and distribution service provider.
- Hydro One is a publicly traded corporation and regulated by the Ontario Energy Board (OEB).
- Hydro One's transmission system includes 30,000 km of transmission lines and serves 98% of electricity customers in Ontario.
- Hydro One's local distribution system covers approximately 75% of the geographic area of Ontario.
- Hydro One's 1.4 million customers are predominantly rural customers.



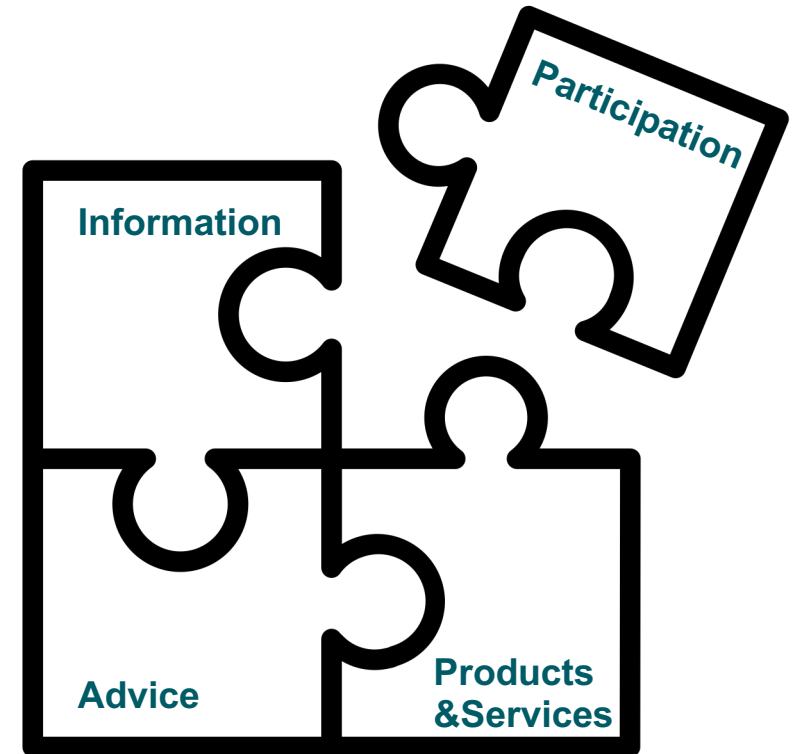
Engaging Customers in the Energy Transition

The energy transition presents an opportunity to...

- improve the value of our **brand**
- change the nature of the **relationship** with our customers
- build **trust and loyalty** to be their energy solutions provider of choice
- unlock a new **value** proposition.

Utilities like Hydro One will need to...

- modernize and **optimize networks** to mitigate rates
- **engage customers** in programs that aggregate the true value of their consumption decisions
- **reward customers** for their actions and investments in smart devices.



Hydro One myEnergy Rewards

- **Goal:** To enroll residential customers to address local distribution system needs.
- **Using AMI Data:** We used hourly AMI data and load disaggregation to identify 13,000 EV owners.
- **Targeted Campaign:** We deployed a highly targeted email to these customers to enroll their chargers or vehicles in a demand response program.
- **Successful Engagement:** Within 24 hours, >300 customer enrolled in the program.



myEnergy Rewards
Enrol your electric vehicle or charger today

Up to \$110 in new rewards available

Do you drive an electric vehicle (EV)? If so, your choice is already helping to reduce emissions.

You can now make an even greater impact on the environment when you sign up your EV or level 2 home charger to [myEnergy Rewards](#) – with up to \$110 in rewards available.

Together, we can enable a greener and more sustainable Ontario.

[Learn more](#)

Make a difference when energy demand is at its highest.

Just a few times a year, you'll allow Hydro One to slightly shift your charging hours when demand for energy is at its highest. That way, your energy consumption happens when the grid has more carbon-free power available.

Notifications are sent in advance, and you always maintain the flexibility to opt out of these peak demand events at any time.



ORACLE

It's weekly engagement for the win

Customer satisfaction and the smart grid

Paul McDonald

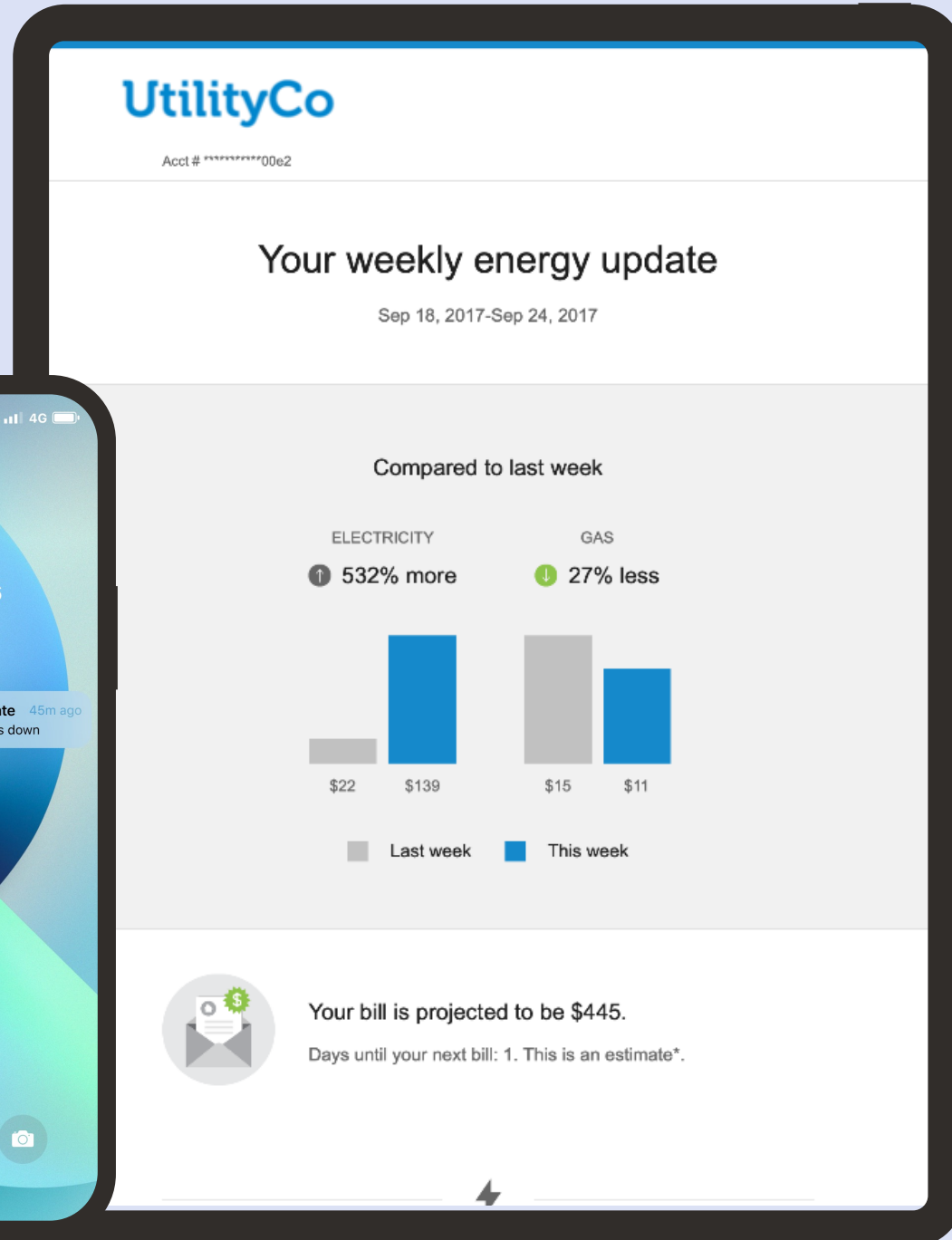
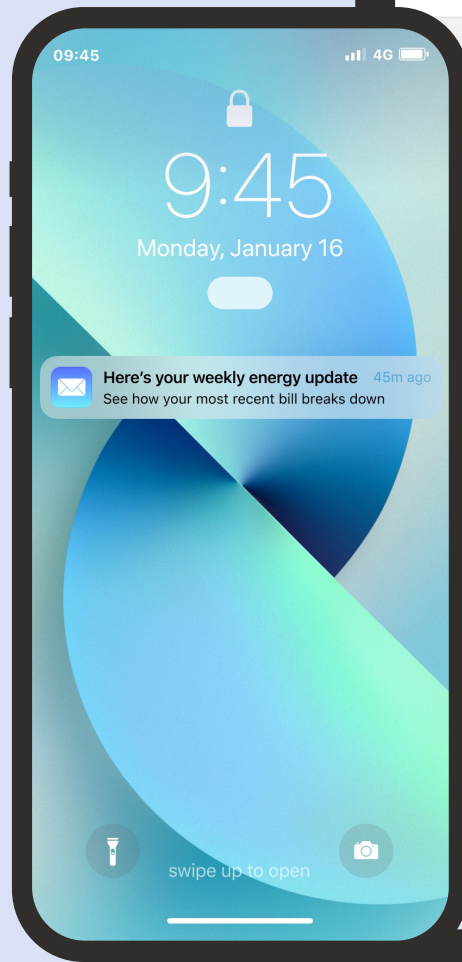
Senior Director, Opower Product Strategy

Oracle Energy and Water

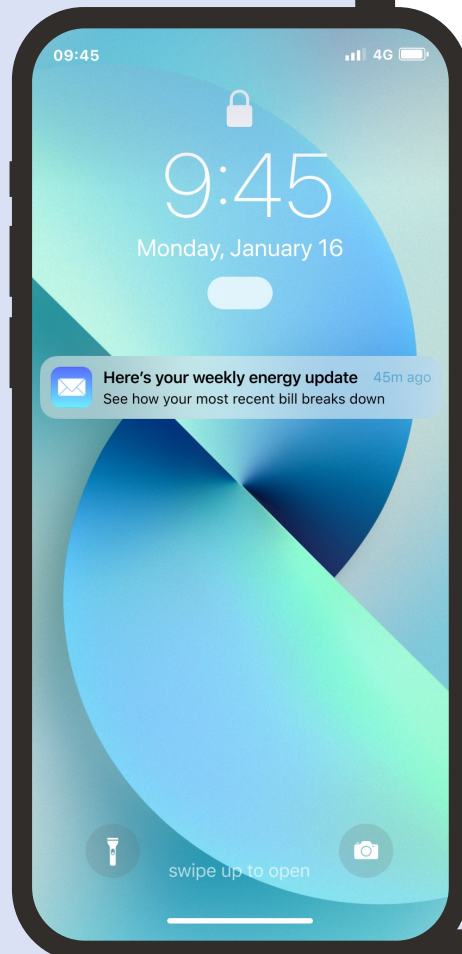
February 26, 2024



Weekly Energy Update



Weekly Energy Update



UtilityCo

Melia Andersen
Acct ****1234
1234 Main St.

Here's how your most recent bill breaks down

Oct 1, 2020-Nov 1, 2020

! You spent \$15.80 more on electricity compared to last bill period

| | |
|-----------|----------|
| This bill | \$184.23 |
| Last bill | \$168.43 |

These top categories made up \$132 of your energy cost this bill

| | | |
|------------------------|------------------------------|------------------------|
| Heating \$77 | Water Heating \$34 | Laundry \$21 |
|------------------------|------------------------------|------------------------|





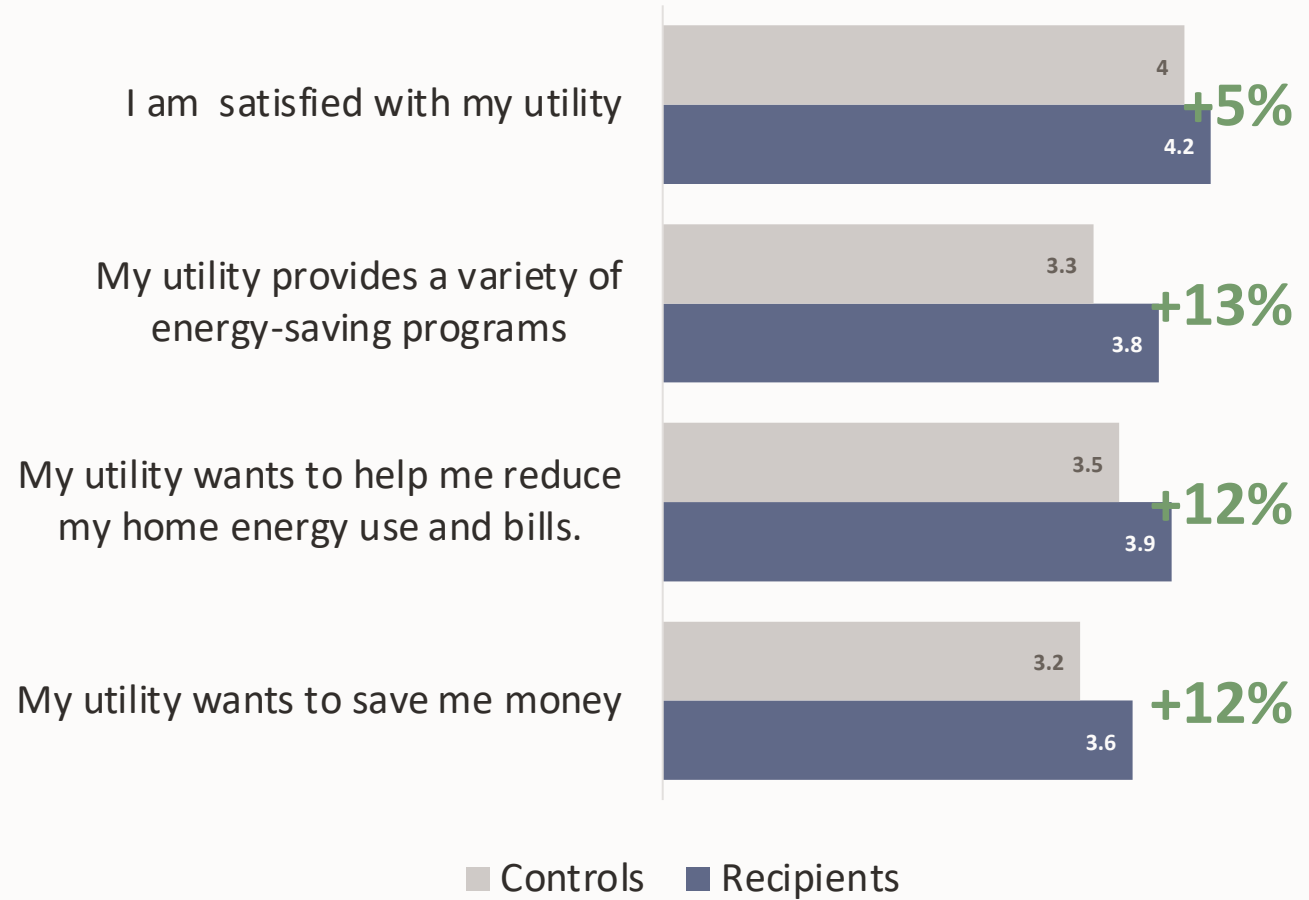
Weekly Energy Updates significantly improve consumer satisfaction

Midwest utility case study

97%

Positive or neutral impact on overall satisfaction

(58% neutral, 39% positive)



APS sends Plan Coach emails to TOU customers every week

a.k.a. Opower Behavioral Load Shaping

Welcome to your Plan Coach, a weekly email designed to help you save money with your time-of-use plan

You can save money on your plan when you shift more of your energy use to lower-cost off-peak hours. By using less energy during on-peak hours others have saved on average \$5 to \$30 a month.

Off-peak hours provide lower energy rates, weekdays

Here's how you used energy this week

What activities can you shift to lower-cost off-peak hours next week?

This data is based on your average energy use Mon-Fri from Aug 27 to Aug 31. If your orange bars are high, look for ways to save.

Great job! You used 14% less energy this week during on-peak hours

This week's on-peak usage 370 kWh

Last week's on-peak usage 430 kWh

Here's how you used energy this week

What activities can you shift to lower-cost off-peak hours next week?

Your highest usage during on-peak hours has increased

| | |
|---|---------------------------------|
| Your highest usage hour so far this bill period is now | kW used during that hour |
| Wednesday, Feb 26 from 3-4pm | 18.5kW |

You'll be charged \$18 per kW for your highest usage hour during on-peak times

To keep your demand charge as low as possible, avoid overlapping use of large appliances during on-peak hours. Shifting appliance use out of on-peak hours altogether will help you save the most energy and money.

During on-peak hours this month, you spent the least the week of Aug 13

That's about \$19 less than your most expensive week this month

Off-peak hours provide lower energy rates, weekdays

Here's how you used energy this week

What activities can you shift to lower-cost off-peak hours next week?

During on-peak hours this month, your demand hour occurred on March 15 from 4-5pm

Here's how you used energy the day of your demand hour

What parts of your routine could you do at off-peak times?

During your demand hour this bill period, you used 9 kW more than last bill period

This bill's on-peak demand 19.5 kW

Last bill's on-peak demand 10.5 kW

To keep your demand charge as low as possible, avoid overlapping use of large appliances during on-peak hours. Shifting appliance use out of on-peak hours altogether will help you save the most energy and money.

See more ways to save money

Minimize the cost of running your refrigerator by



The experience shifted demand and made customers feel happier with Arizona Public Service

33% lower

Overall dissatisfaction with APS

13% higher

Overall satisfaction with APS

1.1 MW

Of daily load shift from just 40,000 customers

“I honestly can't think of a way to improve this essential service. This is the first time a utility company has done this that I know of.

We all want to save money and use fewer precious resources!”

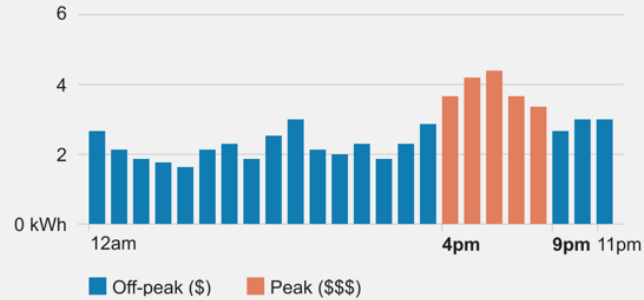


Sarah, APS TOU customer

Enhancing the TOU experience with appliance-level peak usage insights

Here's how you used electricity this week

What parts of your routine could you do at off-peak times?



This data is based on your average weekday electricity use from July 9-13.

Wondering what you were doing during on-peak hours?

Around 60% of your use came from these categories



Cooling

around 34 kWh



Dryer Use

around 11 kWh



Water Heating

around 9 kWh

How do we know how you use energy?

Thanks to data from your smart meter, we can identify patterns in your electricity use that give us an idea of what appliances are using electricity in your home. We

But what was I **doing** in those hours?"



Sam, user testing participant

Appliance-level usage makes it actionable. Weekly focus on the top 3 keeps it simple.

Enhancing the TOU experience with appliance-level peak usage insights

Take a look at your on-peak electricity use for your most recent bill

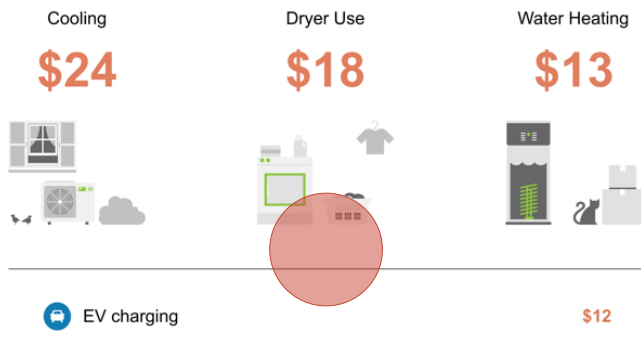
Oct. 1 - Nov. 1, 2022

You spent **\$16 more** on electricity during on-peak hours compared to your last bill



i On-peak hours are from **4pm-9pm**. Electricity is **1.5x more expensive** during this time.

Wondering what you were doing from 4pm-9pm?
We've estimated some of your top uses.



At the end of each bill period, customers get a breakdown of appliance-level peak period spending

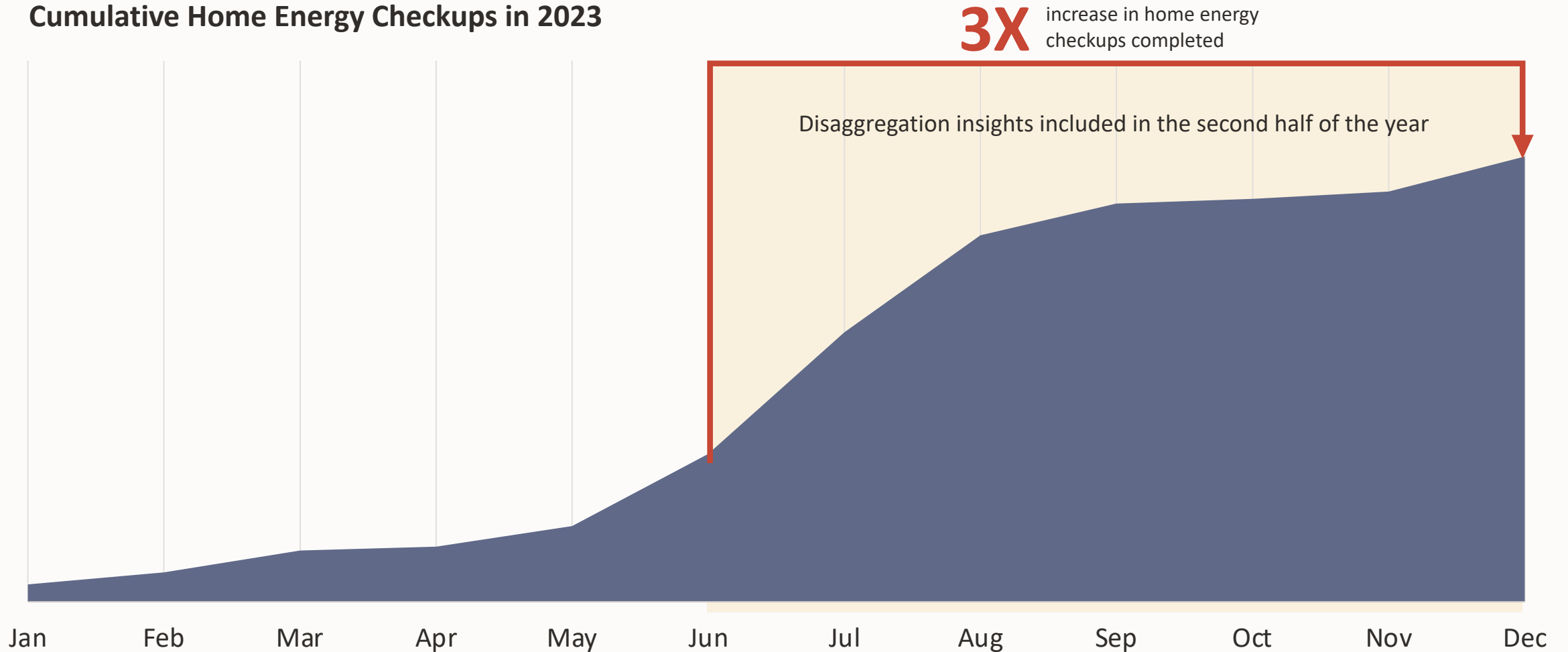




Home energy checkups grew by 3X after launching the new experience

Southwest utility case study

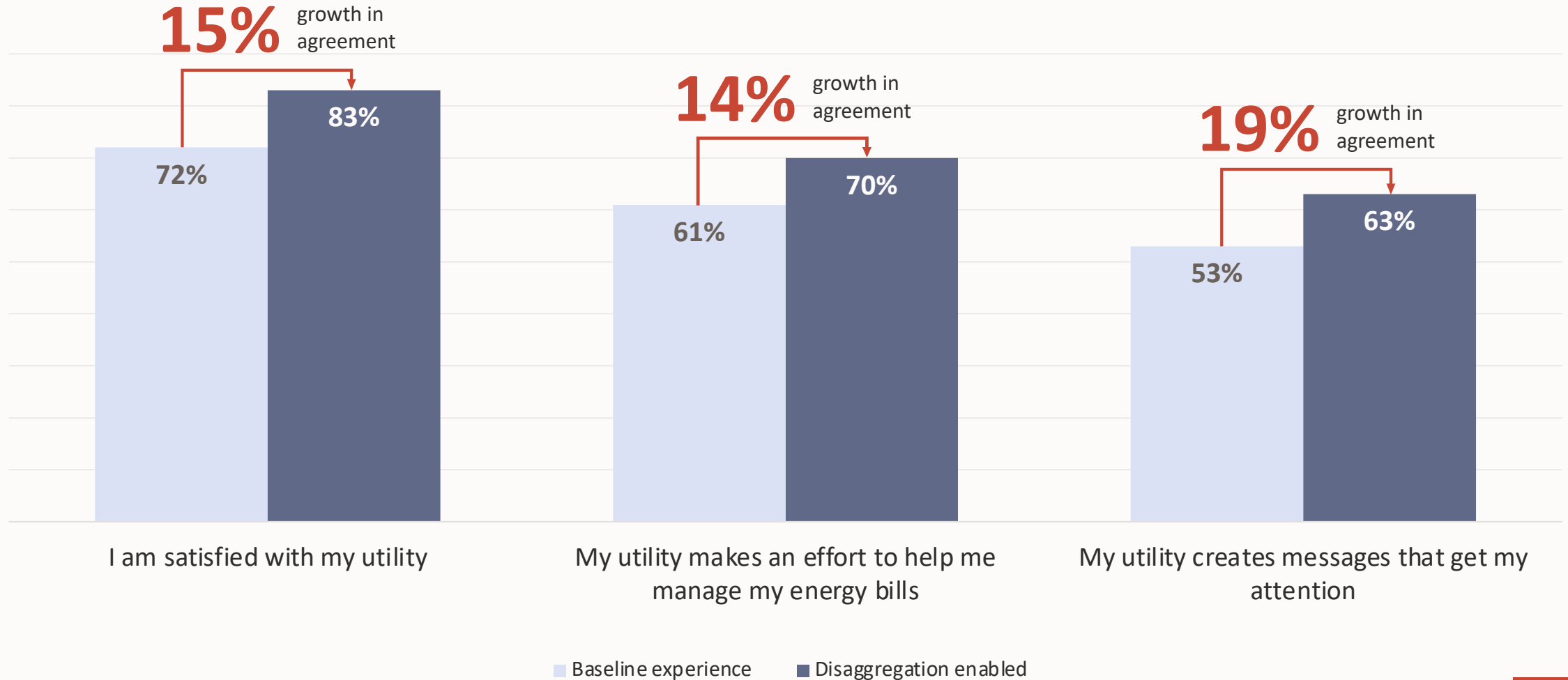
Cumulative Home Energy Checkups in 2023





The new experience delivered additional gains in customer satisfaction

Southwest utility case study





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See You in Dallas



March 24th, 2025

KAY BAILEY HUTCHISON
CONVENTION CENTER DALLAS

